

Section 1: Introduction

Section 1 introduces the *Administrative Planning Guide* and presents a variety of terms and definitions useful in scheduling CTE courses for students.

If you are interested in a single program area, you will find a chart beginning on page 4 that cross-references by page number each course in a program area to its description, approved sequences, and certification/license/assessment information. For example, you can find all the courses in Agricultural Education and determine where to find the information you need about each course.

Section 1: Introduction

The CTE Administrative Planning Guide is designed to assist counselors, teachers, and administrators who schedule student enrollment in elective CTE courses. This guide presents clear and concise information about courses, course descriptions, course sequences, and certifications/licenses in easy-to-find alphabetical lists.

Program Content Areas

For readers who are interested in a single program content area, a chart appears at the end of the introduction (beginning on page 1-4) that cross-references by page number each course in an area to its description, approved sequences, and certification information.

About the Vocabulary

This edition of the Administrative Planning Guide uses terms that are defined or explained as follows.

Two Sequential Electives

Students who are pursuing the Standard Diploma or the new Modified Standard Diploma must complete two sequential electives. *Two sequential electives* comprise a concentration of courses from a variety of options, including Career and Technical Education. Completing any CTE concentration or specialization, including prerequisites, if applicable, will meet the requirement.

Concentration and Specialization Sequences

A *concentration* is a coherent sequence of courses completed by a student in a specific career area as identified in this planning guide (Section 3).

A *specialization* is a choice by a student to specialize in an occupational field by taking additional courses in a specific career area as identified in this planning guide.

A career and technical education *completer* is a student who has met the requirements for a career and technical concentration or specialization and all requirements for high school graduation or an approved alternative education program.

Student-Selected Verified Credit

A *standard credit* is based on a minimum of 140 clock hours of instruction and successful completion of the requirements of the course.

A *verified credit* is based on a standard credit plus a passing score on the end-of-course SOL test (or other test as described in the Standards of Accreditation 8 VAC 20-131-110). A standard credit may not be verified more than once.

A *student-selected verified credit* is a credit for a course that includes a test approved by the Virginia Board of Education. (According to SOA 8 VAC 20-131-110.B, footnote 5: A student may utilize additional tests for earning verified credit in computer science, technology, or other areas as prescribed by the Board in 8 VAC 20-131-110.B.)

On May 28, 2003, the Board of Education approved selected occupational competency assessments from the National Occupational Competency Testing Institute (NOCTI) for use in awarding student-selected verified credit in approved career and technical education courses or course sequences.

Criteria for Certification or Licensure

Student-selected verified credit will be awarded for certification or licensure examinations that meet all of the following criteria:

 Industry certification or licensure examinations that are approved to satisfy the requirements for the Board of Education's Career and Technical Education Seal and the Board of Education's Seal of Advanced Mathematics and Technology will satisfy requirements for student-selected verified credits. For students to be eligible to receive student-selected verified credits, their teacher and/or the career and technical education program must be certified by the issuing organization relative to the industry certification or licensure. In the case of a CTE program area where there are potential multiple certifications, the teacher must be certified in at least one industry certification that is related to the course and/or course sequence. There is no teacher certification requirement by NOCTI (National Occupational Competency Testing Institute) for students to receive verified credits upon passing a selected NOCTI assessment related to their CTE program.

A standard credit may not be verified more than once.

Earning Student-Selected Verified Credit

One student-selected verified credit will be awarded for passing each certification or licensure examination or occupational competency assessment that meets all of the above criteria if the student earns one standard unit of credit only in the career and technical education concentration or specialization.

Two student-selected verified credits will be awarded for passing each certification or licensure examination or occupational competency assessment that meets all of the above criteria if the student

- meets the CTE concentration or specialization course requirements for program completer, and
- earns at least two standard units of credit in the CTE concentration or specialization.

Seals

In September 2000, the Board of Education approved criteria for selecting and approving certifications and licenses to satisfy the requirements for the Career and Technical Education Seal and the Advanced Mathematics and Technology Seal.

- The examination must be in a CTE field that confers a certification from a recognized industry, trade, or professional association. For the technology requirements of the Board's Seal of Advanced Mathematics and Technology, students may elect to pass a Board-approved exam that confers collegelevel credit in a technology or computer science area.
- The examination must be standardized and graded independently of the school or school division in which the student is enrolled.
- The examination must be knowledge-based.
- The examination must be administered on a multi-state or international basis.
- The course of study for which the student receives a certification must be designed to prepare the student for an occupation or occupational area or for the college-level credit in an occupation or occupational area that is technology-driven.

To earn a Career and Technical Education Seal, a student must

- fulfill the requirements for either a standard or advanced studies diploma, and
- · complete a prescribed sequence of courses in a CTE concentration or specialization, and
- maintain a B or better average in CTE courses, or
- pass an exam that confers certification from a recognized industry, trade, or professional association or acquire a professional license in a career and technical field.

Certifications and licenses approved by the Virginia Board of Education for the Career and Technical Education seal are listed in Section 7.

To earn an Advanced Mathematics and Technology Seal, a student must

- fulfill the requirements for either a standard or advanced studies diploma, and
- satisfy all mathematics requirements for the Advanced Studies Diploma with a B average or better,
 and
- pass an exam that confers certification from a recognized industry, trade, or professional association, or
- pass an exam approved by the Board that confers college-level credit in a technology or computer science area.

College credit examinations and certifications approved by the Virginia Board of Education for the Advanced Mathematics and Technology Seal are listed in Section 7.

About the Guide

This edition of the Administrative Planning Guide is divided into the following sections:

- **Section 1: Introduction** defines terms and indexes all courses by program or service area. This index chart refers readers to page numbers for related information such as course description, course sequences, and certification/license/occupational competency assessment overviews.
- Section 2: Courses and Course Descriptions lists all CTE courses in alphabetical order and describes each in terms of grade level, prerequisite (if any), and content focus.
- **Section 3: Course Sequences** lists all CTE courses in alphabetical order and presents completer options in terms of approved concentration and specialization sequences.
- Section 4: Certification/License/Assessment Overviews presents alphabetically the overviews of all certifications, licenses, and occupational competency assessments available for completers of certain course sequences and identifies the requirements and provider.
- **Section 5: Verified Credits** lists the requirements for verified credits and certifications/licenses/assessments that count toward the student-selected verified credit.
- Section 6: Career and Technical Education Seal lists the requirements for and certifications and licenses approved for the Career and Technical Education seal.
- Section 7: Advanced Mathematics and Technology Seal lists the requirements for and certifications and licenses approved for the Advanced Mathematics and Technology seal.
- Section 8: Career Planning explains the nationally accepted concept of career clusters, pathways, and occupational specialties and how this organizational system helps with career exploration.
- **Section 9: Middle School Career Exploration** presents topics for career exploration and the courses that support them.
- Section 10: Elementary School Career Awareness presents courses that expose elementary school students to career skills.
- Section 11: Comments and Questions contains contact information for the Virginia Department of Education, Office of Career and Technical Education Services.

Courses by Program Content Area

The following charts list middle and high school courses by program content area and focus and indicates the section and page number where each description, sequence, and credential overview appears. High school courses are described in Section 2 and middle school courses in Section 9. Course sequences are listed in Section 3, and certifications, assessments, and licenses are described briefly in Section 4.

AGRICULTURAL EDUCATION Focus: Agriculture and natural resources AGRICULTURAL EDUCATION Focus: Agriculture and natural resources

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Middle School Courses	1 mgc //	1ge		
Introduction to Agriscience Grade 6 ANR8002	9-2			
Agriscience Exploration Grade 7 ANR8003	9-2			
Agriscience and Technology Grade 8 ANR8004	9-2			
Fundamental Courses	•	•		-
Agricultural Mechanics and Basic Plant Science ANR8006	2-4	3-3		
Agricultural Mechanics and Basic Animal Science ANR8008	2-4	3-3		
Agricultural Business				
Agricultural Business Fundamentals ANR8022	2-4	3-2		
Agricultural Business Operations ANR8024	2-4	3-2		
Agricultural Business Management ANR8026	2-4	3-2		
Agricultural Machinery Service	-	•		•
Agricultural Power and Equipment ANR8016	2-5	3-4	Outdoor Power Equipment Certification (EETC)	4-28
			Agriculture Mechanics Assessment (NOCTI 1002)	4-2
Agricultural Mechanization Sales and Service ANR8018	2-5	3-4	Agriculture Mechanics Assessment (NOCTI 1002)	4-2
Advanced Agricultural Mechanization ANR8020	2-1	3-1		
Agricultural Production				
Agricultural Production Technology ANR8010	2-5	3-4	Production Agriculture Assessment (NOCTI 1063)	4-29
Agricultural Production Management ANR8012	2-5	3-4	Production Agriculture Assessment (NOCTI 1063)	4-29
Operating the Farm Business ANR8014	2-32	3-35		
Natural Resources Management				
Introduction to Natural Resources ANR8040	2-27	3-28	Forestry Products & Processing Assessment (NOCTI 2037)	4-16
Forestry, Wildlife, and Soil Management ANR8042	2-21	3-20	Forestry Products & Processing Assessment (NOCTI 2037)	4-16
Natural Resources Business Management ANR8044	2-31	3-32		
Horticulture		_	,	
Horticulture Sciences ANR8034	2-23	3-22	Greenhouse Operators Certification Program (Southern Greenhouse Growers Association)	4-17
			Horticulture-Floriculture Assessment (NOCTI 2049)	4-17
			Horticulture-Landscaping Assessment (NOCTI 2149)	4-17
			Horticulture-Olericulture Assessment (NOCTI 2249)	4-18
Floral Design I ANR8055	2-20	3-20	Greenhouse Operators Certification Program (Southern Greenhouse Growers Association)	4-17

Description Page # Page # Available OPage #	Credential Overview Page #
Program (Southern Greenhouse Growers Association)	-17
Program (Southern Greenhouse Growers Association)	-17
Program (Southern Greenhouse Growers Association)v	-17
(NOCTI 2249) 2-28 3-28 Horticulture-Landscaping 4-	-17
Program (Southern Greenhouse	17
Concepts ANR8072/8073 2-5 3-4	
ons in Agriculture ANR8086 2-7 3-6	
nd Maintenance ANR8051 2-39 3-41	
s Applications ANR8054 2-3 3-2	
ntal Management ANR8045/ 2-15 3-16	
Certification (EETC)	-28
(NOCTI 2068)	-2
cations in Agriculture ANR808/ 2-8 3-6	
on for the Disadvantaged 2-4 3-2	
on for the Disabled ANR8053 2-4 3-2	
or the Disadvantaged ANR8070 2-21 3-20	
Program (Southern Greenhouse Growers Association)	

BUSINESS AND INFORMATION TECHNOLOGY Focus: Information systems, finance, management, office administration

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Foundation Courses		1	-	
Keyboarding (Middle School) BUS6150	2-27, 9-2	3-27		
Computer Solutions BUS6609/6610	2-11, 9-1	3-13		
Make It Your Business BUS6110/6111	2-29, 9-2	3-29		
Occupational Courses				
Note: For Business and Information Technology occupating a Certification is considered an entry-level certification. ** Certification is considered a mid-level certification and the certification is considered an advanced-level certification.	l may require	significant c	urriculum "mapping."	el.
Accounting BUS6320	2-1	3-1	Certification for Legal Professionals* (ALS) when combined with Office Administration and Legal Systems Administration	4-7
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
Advanced Accounting BUS6321	2-1	3-1	Certification for Legal Professionals* (ALS) when combined with Office Administration and Legal Systems Administration	4-7
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
Business Law BUS6131	2-8	3-7	IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
Business Law BUS6132	2-8	3-7		
Business Management BUS6135	2-8	3-7	IC ³ Certification* (Certiport) International Computer Driving	4-20 4-20
D ' M , DUGC126	2.0	2.0	License* (ICDL US)	
Business Management BUS6136	2-8	3-8	MOS* (M) COSC C 11 ()	1.26
Computer Applications BUS6611	2-10	3-10	MOS* (Microsoft Office Specialist) (Microsoft)	4-26
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
Computer Applications BUS6617	2-10	3-10		
Computer Information Systems BUS6612	2-11	3-11	MOS* (Microsoft Office Specialist) (Microsoft)	4-26
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
			See possibility of digital media certifications in Desktop/Multimedia Presentations.	
Computer Information Systems BUS6614	2-11	3-11		
Advanced Computer Information Systems BUS6613	2-1	3-1	Certification in Convergent Network Technologies (CCNT)	4-7
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
			Microsoft Office Specialist (MOS) (Microsoft)	4-20

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Advanced Computer Information Systems BUS6615	2-1	3-1		
Computer Network Software Operations BUS6650	2-11	3-12	A+* (CompTIA)	4-1
			Certified in Convergent Network	4-7
			Technologies (CCNT*)	
			(ProsoftTraining)	
			Certified Novell Administrator*	4-9
			(Novell)	
			CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			Customer Support Specialist	4-13
			Certification* (Help Desk Institute)	
			IC ³ * (Certiport)	4-20
			iNet* (CompTIA)	4-20
			International Computer Driving	4-20
			License* (ICDL US)	
			IT Essentials Certificate, Level 1*	4-20
			(Cisco Systems)	
			IT Essentials Certificate, Level 2*	4-21
			(Cisco Systems)	
			Linux +* (CompTIA)	4-21
			Microsoft Certified Professional	4-24
			(MCP)* (Microsoft)	1.21
			MCP: Installing, Configuring, and	4-24
			Administering Microsoft Windows	
			2000 Professional* ((Microsoft)	4.24
			MCP: Installing, Configuring, and Administering Microsoft Windows	4-24
			2000 Server* (Microsoft)	
			MOS* (Microsoft)	4-26
			Unix Certificate* (Cisco Systems)	4-20
			Voice and Data Cabling Certificate*	4-31
			(Cisco Systems)	7-31

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Advanced Computer Network Software Operations	2-1	3-1	A+* (CompTIA)	4-1
BUS6651			Certified in Convergent Network Technologies (CCNT*) ProsoftTraining)	4-7
			Certified Novell Administrator* (Novell)	4-9
			CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			Customer Support Specialist	4-13
			Certification* (Help Desk Institute)	
			IC ³ * (Certiport)	4-20
			iNet* ((CompTIA)	4-20
			International Computer Driving License* ((ICDL US)	4-20
			IT Essentials Certificate, Level 1* (Cisco Systems)	4-20
			IT Essentials Certificate, Level 2* (Cisco Systems)	4-21
			Linux +* (CompTIA)	4-21
			Microsoft Certified Professional (MCP)* (Microsoft)	4-24
			MCP: Installing, Configuring, and Administering Microsoft Windows	4-24
			2000 Professional* (Microsoft)	
			MCP: Installing, Configuring, and Administering Microsoft Windows 2000 Server* (Microsoft)	4-24
			MOS* (Microsoft)	4-26
			Network +* (CompTIA)	4-27
			Unix Certificate* (Cisco Systems)	4-31
			Voice and Data Cabling Certificate* (Cisco Systems)	4-31
Database Design and Management (Oracle)	2-13	3-14	IC ³ * (Certiport)	4-20
BUS6660			International Computer Driving License* (ICDL US)	4-20
			MOS* (Microsoft)	4-26
			Oracle Certified Professional (Any Oracle Professional Certification Exam)* (Oracle)	4-27
Advanced Database Design and Management (Oracle) BUS6661	2-1	3-1	Brainbench Java 2 Fundamentals Certification* (Brainbench)	4-5
			Brainbench Java 2 Certification* (Brainbench)	4-5
			IC ³ * (Certiport)	4-20
			International Computer Driving License* (ICDL US)	4-20
			Java Programming Certificate* (Cisco Systems)	4-21
			MOS* (Microsoft)	4-26
			Oracle Certified Professional (Any Oracle Professional Certification Exam* (Oracle)	4-27
			Sun Certified Programmer for Java2 Platform (Sun Microsystems)	4-31

ourse	Course Description Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credentia Overview Page #
Desktop /Multimedia Presentations BUS6630	2-14	3-15	Adobe Certified Expert* (Adobe)	4-1
•			Brainbench Adobe Illustrator	4-3
			Certification* (Brainbench)	
			Brainbench Adobe PageMaker	4-3
			Certification* (Brainbench)	
			Brainbench Adobe Photoshop	4-3
		-	Certification* (Brainbench)	
			Brainbench Certified Internet	4-4
			Professional: Page Layout**	
			(Brainbench)	
			Brainbench CorelDRAW	4-4
			Certification* (Brainbench)	
			Brainbench Dreamweaver	4-4
			Certification* (Brainbench)	
			Brainbench Fireworks Certification*	4-4
			(Brainbench)	
			Brainbench Flash Certification*	4-4
			(Brainbench)	' '
			Brainbench HTML Certification*	4-5
			(Brainbench)	7 3
			Brainbench JavaScript Certification*	4-5
			(Brainbench)	4-3
			Brainbench Macromedia FreeHand	4-5
			Certification* (Brainbench)	4-3
			Brainbench MS FrontPage 2000	4-6
			Certification* (Brainbench)	4-0
			CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			IC ³ * (Certiport)	4-9
			iNet* (CompTIA)	4-20
				_
			International Computer Driving License* (ICDL US)	4-20
			Macromedia Certified Professional*	4-22
			(Macromedia)	
			MOS* (Microsoft)	4-26
			Web Design Certificate* (Cisco Systems)	4-31
			WOW Certified Apprentice	4-32
			Webmaster* (World Organization of Webmasters)	
			WOW Certified Web Administrator	4-32
			Apprentice* (World Organization of	7-32
			Webmasters)	
			WOW Certified Web Designer	4-32
			Apprentice* (World Organization of	7-34
			Webmasters)	1.00
			WOW Certified Web Developer	4-32
			Apprentice* (World Organization of Webmasters)	

Course	Course	Course	Certification, License, or Assessment	Credential
	Descrip- tion	Sequence	Available	Overview Page #
	Page #	Page #		Ü
Advanced Desktop/Multimedia Presentations	2-2	3-1	Adobe Certified Expert* (Adobe)	4-1
BUS6631			Brainbench Adobe Illustrator	4-3
			Certification* (Brainbench)	4-3
			Brainbench Adobe PageMaker Certification* (Brainbench)	4-3
			Brainbench Adobe Photoshop	4-3
			Certification* (Brainbench)	
			(Brainbench)	
			Brainbench Certified Internet	4-4
			Professional: Page Layout**	
			(Brainbench)	ļ.,.
			Brainbench CorelDRAW	4-4
			Certification* (Brainbench) Brainbench Dreamweaver	4-4
			Certification* (Brainbench)	4-4
			Brainbench Fireworks Certification*	4-4
			(Brainbench)	' '
			Brainbench Flash Certification*	4-4
			(Brainbench)	
			Brainbench HTML Certification*	4-5
			(Brainbench)	
			Brainbench JavaScript Certification*	4-5
			(Brainbench) Brainbench Macromedia FreeHand	4-5
			Certification* (Brainbench)	4-3
			Brainbench MS FrontPage 2000	4-6
			Certification* (Brainbench)	. 0
			CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			IC ³ * (Certiport)	4-20
			iNet* (CompTIA)	4-20
			International Computer Driving License* (ICDL US)	4-20
			Macromedia Certified Professional* (Macromedia)	4-22
			MOS* (Microsoft)	4-26
			Web Design Certificate* (Cisco Systems)	4-31
			WOW Certified Apprentice Webmaster* (World Organization of Webmasters)	4-32
			WOW Certified Web Administrator	4-32
			Apprentice* (World Organization of Webmasters)	1.20
			WOW Certified Web Designer Apprentice* (World Organization of Webmasters)	4-32
			WOW Certified Web Developer	4-32
			Apprentice* (World Organization of	. 52
			Webmasters)	
Advanced Desktop/Multimedia Presentations BUS6633	2-2	3-1		
Digital Input Technologies BUS6161	2-14	3-16	MOS* (Microsoft)	4-26
Digital Input Technologies BUS6160	2-14	3-16		
Finance BUS6120	2-20	3-19	IC ³ * (Certiport)v	4-20
			International Computer Driving License* (ICDL US)	4-20
Finance BUS6121	2-20	3-19		

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Information Technology Fundamentals BUS6670	2-24	3-23	A+* (CompTIA)	4-1
			IC ³ * (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			IT Essentials Certificate, Level 1* (Cisco Systems)	4-20
			MOS* (Microsoft)	4-26
Keyboarding (Secondary) BUS6151	2-27	3-27		
Keyboarding Applications BUS6152	2-28	3-27	MOS* (Microsoft)	4-26
Keyboarding Applications BUS6153	2-28	3-27		
Legal Systems Administration BUS6735	2-28	3-28	Certification for Legal Professionals* (ALS) when combined with Office Administration and Accounting IC ³ Certification* (Certiport)	4-7
			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26
Legal Systems Administration BUS6736	2-28	3-28	10 ² 0 10 1 1 (0 1	4.20
Medical Systems Administration BUS6730	2-30	3-31	IC ³ Certification* (Certiport) International Computer Driving License (ICDL US)*	4-20 4-20
			MOS* (Microsoft)	4-26
Medical Systems Administration BUS6731	2-30	3-31	Wies (Microsoft)	7 20
Notetaking BUS6241/6142	2-31	3-31		
Office Administration BUS6621	2-32	3-33	Certification for Legal Professionals* (ALS) when combined with Accounting and Legal/Medical Systems Administration)	4-7
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26
Office Administration BUS6622	2-32	3-33		
Principles of Business and Marketing BUS6115	2-34	3-36	IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
Principles of Business and Marketing BUS6116	2-34	3-36		
Programming BUS6640	2-35	3-37	CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			Microsoft Certified Professional (MCP) (Microsoft)	4-24
			MCP: Visual Basic 6.0* (Microsoft)	4-24
			MCP: Visual C++ 6.0* (Microsoft)	4-25

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Advanced Programming BUS6641	2-3	3-2	Brainbench Java 2 Fundamentals Certification* (Brainbench)	4-5
			Brainbench Java 2 Certification* (Brainbench)	4-5
			CIW Associate* (ProsoftTraining)	4-9
			CIW Professional* (ProsoftTraining)	4-9
			IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			Java Programming Certificate* (Cisco Systems)	4-21
			Microsoft Certified Professional (MCP)* (Microsoft)	4-24
			MCP: Visual Basic 6.0* (Microsoft)	4-24
			MCP: Visual C++ 6.0* (Microsoft)	4-25
			Sun Certified Programmer for Java 2 Platform* (Sun Microsystems)	4-31
Word Processing BUS6625	2-41	3-41	IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26
Word Processing BUS6626	2-41	3-41		
Special Programs		_		
Office Specialist I BUS6740	2-32	3-34	IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26
Office Specialist II BUS6741	2-32	3-34	IC ³ Certification* (Certiport) International Computer Driving	4-20 4-20
			License (ICDL US)*	
			MOS* (Microsoft)	4-26
Office Specialist III BUS6742	2-32	3-34	IC ³ Certification* (Certiport)	4-20
			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26
Business and Information Technology Dual Enrollment BUS6810	2-8			
International Baccalaureate Business Management IB6135	2-24	3-24		
International Baccalaureate Information Technology	2-24	3-24	IC ³ Certification* (Certiport)	4-20
in a Global Society IB6613			International Computer Driving License (ICDL US)*	4-20
			MOS* (Microsoft)	4-26

FAMILY AND CONSUMER SCIENCES

Focus: Early childhood education, consumer services, interior design, fashion design, foods/nutrition, hospitality, family and human services, home management

Course	Course Descrip- tion	Course Sequence	Certification, License, or Assessment Available	Credential Overview Page #
Middle School Courses	Page #	Page #		
Exploring Work and Family Roles FCS8204/ 8206/8208/8241/8242/8243/8244/8245	9-4			
Family Focus	1		1	
Family Relations FCS8223/8225	2-19	3-18		
Individual Development FCS8209/8210	2-24	3-23		
Life Planning FCS8226/FCS8227	2-28	3-30		
Nutrition and Wellness FCS8228/S8229	2-32	3-33		
Parenting FCS8231/8232	2-33	3-36		
Resource Management FCS8214/8219	2-36	3-39		
Transition Focus		•		•
Introduction to Culinary Arts FCS8249/8250	2-25	3-25		
Introduction to Early Childhood Education FCS8233/8234	2-26	3-26		
Introduction to Family and Human Services FCS8237/8238	2-26	3-26		
Introduction to Fashion Design and Marketing FCS8247/8248	2-26	3-26		
Introduction to Hospitality, Tourism, and Recreation FCS8258/8259	2-27	3-27		
Introduction to Housing, Home Furnishings, and Design FCS8254/8255	2-27	3-27		
Work and Family Management FCS8205/8282	2-41	3-43		
Work Focus		1 -		
Culinary Arts I FCS8275	2-13	3-13		
Culinary Arts II FCS8276	2-13	3-13	ACCESS (ACF)	4-1
•			Commercial Foods Assessment (NOCTI 2020)	4-11
			Food Production Management and Services Assessment (NOCTI 2036)	4-16
			ProStart National Certificate of Achievement (Educational Founda- tion of the National Restaurant Association)	4-29
Early Childhood Education I FCS8285	2-15	3-16		
Early Childhood Education II FCS8286	2-15	3-16	Child Development Associate (Council for Professional Recognition)	4-10
			Early Childhood Care and Education Assessment (NOCTI 2016)	4-14
Family and Human Services I FCS8264	2-18	3-18		
Family and Human Services II FCS8265	2-19	3-18		
Fashion Design I FCS8280	2-19	3-19		
Fashion Design II FCS8281	2-19	3-19	Clothing and Textiles Management and Production Assessment (NOCTI 1018)	4-11

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Hospitality Services I FCS8202	2-23	3-22	Hospitality Skills Certification— Restaurant Server (AH&LA)	4-19
			Hospitality Skills Certification— Room Attendant (AH&LA)	4-19
			Lodging Management Program Certification, Level 1 (AH&LA)	4-22
			START Certification (AH&LA)	4-30
Hospitality Services II FCS8203	2-23	3-22	Certified Hospitality Supervisor (AH&LA)	4-8
			Hospitality Management—Food and Beverage Option Assessment (NOCTI 1079)	4-18
			Hospitality Management—Lodging Option Assessment (NOCTI 1080)	4-18
			Hospitality Skills Certification— Restaurant Server (AH&LA)	4-19
			Hospitality Skills Certification— Room Attendant (AH&LA)	4-19
			Lodging Management Program Certification, Level 2 (AH&LA)	4-22
			START Certification (AH&LA)	4-30
Interior Design I FCS8295	2-25	3-25		
Interior Design II FCS8296	2-265	3-25		
Special Programs				
GRADS FCS8277/8278/8213	2-21	3-21		
Dual Enrollment—Postsecondary FCS8266	2-18			

HEALTH AND MEDICAL SCIENCES

Focus: Nursing, EMT, dental, surgical technician, physical and occupational therapy, and veterinary aide

Course	Course Descrip- tion	Course Sequence	Certification, License, or Assessment Available	Credential Overview Page #
Middle School Course	Page #	Page #		
Health and Medical Sciences Exploratory HMS8370	9-3			
Introductory Course	9-3			
Introductory Course Introduction to Health and Medical Sciences	2.26	2.07		
Occupations HMS8302	2-26	3-27		
Dental Assistant				
Dental Assistant I HMS8328	2-13	3-14		
Dental Assistant II HMS8329	2-14	3-14	Certified Dental Assistant: Infection Control Examination (Dental Assisting National Board) Certified Dental Assistant: Radiation	4-7
			Health & Safety Examination (Dental Assisting National Board)	
			Dental Assisting Assessment (NOCTI 2026)	4-14
			NRDA Certification (National Allied Health Registry/National Association for Health Professionals)	4-27
Emergency Medical Terminology				
Emergency Medical Technician Basic-I HMS8333	2-17	3-17		
Emergency Medical Technician Basic-II HMS8334	2-17	3-17	Emergency Medical Technology (Virginia Department of Health)	4-15
Emergency Medical Technician Basic-III HMS8335	2-17	3-17	, e	
Health Careers Cluster				
Health Assistant I HMS8331	2-22	3-21		
Health Assistant II Psychiatric Aide HMS8332	2-22	3-21	Nurse Aide (Virginia Board of Nursing)	4-27
Medical Assistant	•			
Medical Assistant I HMS8345	2-30	3-31		
Medical Assistant II HMS8346	2-30	3-31	Medical Assisting Assessment (NOCTI 3055)	4-23
			NRDA Certification (National Allied Health Registry/National Association for Health Professionals)	4-27
Medical Terminology				
Medical Terminology HMS8383	2-31	3-32		
Nursing Assistant				
Nursing Assistant I HMS8360	2-31	3-32		
Nursing Assistant II HMS8362	2-31	3-32	Nurse Aide (Virginia Board of Nursing)	4-27
Pharmacy				
Pharmacy Technician	2-33	3-36		
Physical Therapy				
Physical Therapy /Occupational Therapy HMS8385	2-33	3-36		
Practical Nursing				
Practical Nursing I HMS8357	2-34	3-36		
Practical Nursing II HMS8358	2-34	3-36	Nurse Aide (Virginia Board of Nursing)	4-27
B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1001	2.26	Practical Nursing (NOCTI 2062)	4-29
Practical Nursing III HMS8359	2-34	3-36		
Surgical Technology	T a a=	1 0 00		
Surgical Technologist I HMS8351	2-37	3-39		
Surgical Technologist II HMS8352	2-38	3-39		
Veterinary Assistant	1	ı		
Veterinary Assistant I HMS8310	2-40	3-41		

Course	Course	Course	Certification, License, or Assessment	Credential
	Descrip-	Sequence	Available	Overview
	tion			Page #
	Page #	Page #		
Veterinary Assistant II HMS8311	2-40	3-41		
Veterinary Assistant III HMS8312	2-40	3-41		
Occupational Mix				
Home Health Aide HMS8364	2-23	3-22		
Special Programs				
Dual Enrollment with Postsecondary HMS8394	2-22			

MARKETING

Focus: Buying, transporting, storing of goods; promotion of goods and services; market research; marketing management

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
General Marketing	ruge "	Tuge "	1	
Fundamentals of Marketing MKT8110	2-21	3-20		
Internet Marketing MKT8125	2-25	3-25		
Introduction to Marketing MKT8111	2-27	3-27		
Make It Your Business MKT8109/8112/ 8113/8114	2-29, 9-3	3-30		
Marketing MKT8120/8121	2-29	3-31	Fundamental Concepts of Business and Marketing Certificate (ASK Innstitute) National Professional Certification in	4-16 4-27
A LANGE AND			Customer Service (S&SVP)	
Advanced Marketing MKT8130/8131	2-3	3-2	Advanced Concepts of Business and Marketing Certificate ASK Institute)	4-1
			National Professional Certification in Customer Service (S&SVP)	4-27
			Retail Trades Assessment (NOCTI 2053)	4-30
Principles of Business and Marketing MKT8115/8116	2-34	3-37		
Executive Marketing				
International Marketing MKT8135	2-25	3-25		
Advanced International Marketing MKT8136	2-2	3-2		
Marketing Management MKT8132	2-29	3-31		
Apparel and Accessories Marketing				
Introduction to Fashion Design and Marketing MKT8148/8149	2-26	3-25		
Fashion Marketing MKT8140/8141	2-19	3-19	Fundamental Concepts of Business and Marketing Certificate (ASK Institute)	4-16
Advanced Fashion Marketing MKT8145/8146	2-2	3-2	Advanced Concepts of Business and Marketing Certificate (ASK Institute)	4-1
			Retail Trades Assessment (NOCTI 2053)	4-30
Hospitality, Tourism, and Recreation Marketing		·	1	-1
Hotel/Motel Marketing MKT8160/8161	2-23	3-22	Certified Hospitality Supervisor (AH&LA)	4-8
			Hospitality Skills Certification— Front Desk Agents (AH&LA)	4-18
			Lodging Management Program Certification, Level 1 (AH&LA)	4-22
Advanced Hotel/Motel Marketing MKT8162/ 8163	2-2	3-2	Certified Hospitality Supervisor	4-8
			Hospitality Management—Food & Beverage Assessment (NOCTI 1079)	4-18
			Hospitality Management—Lodging Option Assessment (NOCTI 1080)	4-18
			Hospitality Skills Certification— Front Desk Agents (AH&LA)	4-18
			Lodging Management Program Certification, Level 2 (AH&LA)	4-22
Sports, Entertainment, and Recreation Marketing MKT8175/MKT8176	2-37	3-40		
Advanced Sports, Entertainment, and Recreation Marketing MKT8177/MKT8178	2-3	3-2		
Travel and Tourism Marketing MKT8165/8166	2-39	3-41		

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Advanced Travel and Tourism Marketing MKT8167/ 8168	2-3	3-2		
Financial Services Marketing		I.		
Financial Services Marketing MKT8180/8181	2-20	3-19		
Real Estate Marketing				
Real Estate Marketing MKT8191	2-36	3-38	Real Estate Salesperson (Virginia Real Estate Board)	4-29
Special Programs				
Dual Enrollment w/Postsecondary MKT8198	2-29			

TECHNOLOGY EDUCATION

Focus: Design, technology, and engineering

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Middle School				•
Introduction to Technology DTE8483/8482/ 8484/8481	9-3			
Inventions and Innovations DTE8461/8464/8485	9-3			
Technological Systems DTE8462/8463/8486	9-3			
Design and Technology				•
Technology Foundations DTE8403/8402	2-38	3-40		
Technology Transfer DTE8405/8404	2-39	3-40		
Technology Assessment DTE8407/8406	2-38	3-40		
Pre-Engineering				•
Introduction to Engineering DTE8490	2-26	3-26		
Advanced Engineering DTE8491	2-2	3-2		
Communication and Information Technology				
Computer Control and Automation DTE8421/8420	2-10	3-10		
Communication Systems DTE8415/8418	2-10	3-9		
Graphic Communication Systems DTE8458/8494	2-21	3-21		
Control Technology	•	1		<u>'</u>
Electronics Systems I DTE8416/8417	2-16	3-17	A+ (CompTIA)	4-1
·			Certified Electronics Technician	4-8
			Associate (ETA)	
Electronics Systems II DTE8412	2-16	3-17	A+ (CompTIA)	4-1
			Certified Electronics Technician Associate (ETA)	4-8
Power and Transportation DTE8445/8444	2-33	3-36		
Energy and Power DTE8448/8495	2-17	3-17		
Production Technology				•
Production Systems DTE8447/8446	2-35	3-37		
Materials and Processes Technology DTE8433/ DTE8478	2-30	3-31		
Construction Technology DTE8431/8432	2-12	3-13		
Manufacturing Systems DTE8425/8426	2-29	3-30		
Advanced Manufacturing Systems DTE8427	2-3	3-2		
Technical Design and Illustration				
Technical Drawing and Design DTE8435/8434	2-38	3-41	AutoCAD 2000 (Brainbench)	4-2
Engineering Drawing and Design DTE8436/8493	2-18	3-17	AutoCAD 2000 (Brainbench)	4-2
Architectural Drawing and Design DTE8437/8492	2-5	3-4	AutoCAD 2000 (Brainbench)	4-2
Principles of Technology				
Principles of Technology I DTE9811	2-35	3-37		
Principles of Technology II DTE9812	2-35	3-37		
Biotechnology Program				
Biotechnology Foundations DTE9820	2-8	3-6		
Bioengineering DTE8467	2-7	3-6		
Special Courses				
Careers and You DTE8475	9-1			
Dual Enrollment w/Postsecondary DTE8498	2-38			

TRADE AND INDUSTRIAL EDUCATION
Focus: Communications, construction, metalworking, personal and public services, and transportation

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Communications and Graphics				
Advertising Design TDI8570/8571/8572	2-4	3-2	Advertising Design Assessment (NOCTI 2019)	4-2
Basic Photography TDI8610	2-7	3-5		
Commercial Photography TDI8607/8608/8609	2-10	3-8		
Computer Networking Hardware Operations TDI8542/8543/8544/8545	2-11	3-12	Cisco Certified Networking Associate (CCNA) (Cisco Systems)	4-11
			Cisco CCNA Academy Certificate (CCNA:1) (Cisco Systems)	4-10
			Cisco CCNA Academy Certificate (CCNA:2) (Cisco Systems)	4-10
			Cisco CCNA Academy Certificate (Level 3) (Cisco Systems)	4-10
			Cisco CCNA Academy Certificate (CCNA:4) (Cisco Systems)	4-10
Computer Repair and Servicing TDI8621	2-11	3-12		
Computer Systems Technology TDI8622/8623/	2-12	3-13	A+ (CompTIA)	4-1
TDI8624			Certified Computer Service Technician (ETA)	4-7
			IT Essentials, Level 1 (Cisco Systems)	4-20
Drafting TDI8530/8531/8532	2-15	3-16	AutoCAD 2000 (Brainbench)	4-2
			Drafter Certification (American Design Drafting Association)	4-14
Electronics Technology TDI8536/8537/8538	2-17	3-17	Certified Computer Service Technician (ETA)	4-7
			Certified Electronics Technician Associate (ETA)	4-8
			Certified Satellite Dish Installer (ETA)	4-9
			Consumer Electronics Certification (CEC) (ETA)	4-13

Graphic Imaging Technology TDI8660/8661/ TDI8662 2-2	Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Brainbench Adobe Blustrator	Graphic Imaging Technology TDI8660/8661/			Adobe Certified Expert (Adobe)	4-1
Radio Communications TDI8640/8641/8642 2-36 3-38 Robotic Workcell Technology TDI8557/8558/ Telecommunications TDI8650/8651 2-39 3-41 Audio-Visual Communications TDI8650/8651 2-39 3-41 Audio-Visual Communications TDI8688/8689/8690 2-39 3-41 Building Trades TDI8515/8516/8517 2-8 3-6 Carpentry TDI8600 Brick Layer TDI8511 2-8 3-6 Carpentry TDI8601/8602/8603 2-9 3-8 Carpentry TDI8604/8605/8606 2-9 3-8 Carpentry TDI8601/8602/8603 4-12 Carpentry TDI8601/8602/8603 4-12 Carpentry TDI8601/8602/8603 4-12 Carpentry TDI8601/8602/8603 2-9 3-8 Carpentry TDI8601/8602/8603 4-12 Carpentry Assessment (NOCTI 1014) 4-12 Ca	TDI8662			Brainbench Adobe Illustrator	
Certification (Brainbench)					4-3
Radio Communications TDI8640-8641/8642 2-36 3-38 Robotic Workcell Technology TDI8557/8558/ TDI8559 2-39 3-41 Audio-Visual Communications TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications TDI8650/8517 2-8 3-6 Carpentry TDI8515/8516/8517 2-8 3-6 Carpentry TDI8515/8516/8517 2-8 3-6 Carpentry TDI8604/8605/8606 2-9 3-8 Calpentry Assessment (NOCTI 04-2 Carpentry Level I Certification (4-2 Carpentry I Corstruction I Corstructio					4-3
Radio Communications TD18640/8641/8642 2-36 3-39 TD18559 Television Production TD18688/8689/8690 2-39 3-41 Audio-Visual Communications TD18650/8651 2-39 3-41 Audio-Visual Communications TD18688/8689/8690 2-39 3-41 Audio-Visual Communications 4-2 Audio-Visual Communications 4-2 Basic Carpentry TD18600 2-7 3-5 Brick Layer TD18511 2-8 3-6 Carpentry TD1860/8604/8605/8606 2-9 3-8 Carpentry TD18604/8605/8606 2-9 3-8 Carpentry TD18604/8605/8603 2-9 3-8 Carpentry TD18604/8602/8603 4-12 Carpentry Assessment (NOCTI 1014) Construction Fundamentals 4-12 Carpentry Assessment (NOCTI 1014) Construction Fundamentals 4-20 Carpentry TD18604/8602/8603 2-9 3-8 Carpentry Assessment (NOCTI 1014) Construction Fundamentals 4-12 Carpentry Assessment (NOCTI 1014)					4-4
Radio Communications TDI8640/8641/8642 2-36 3-38 Robotic Workcell Technology TDI8557/8558/ TDI8559 3-41 Audio-Visual Communications TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications TDI8618515/8516/8517 2-8 3-6 Carpentry TDI8515/8516/8517 2-8 3-6 Carpentry TDI8515/8516/8517 2-8 Carpentry TDI8604/8605/8606 2-9 3-8 Carpentry TDI8604/8605/8606 2-9 3-8 Carpentry TDI8601/8602/8603 2-9 3-8 Carpentry Assessment (NOCTI 1014) 4-6 Carpentry TDI8601/8602/8603 4-12 Carpentry TDI8601				Certification (Brainbench)	
Radio Communications TDI8640/8641/8642 2-36 3-38 Radio Communications TDI8640/8641/8692 2-39 3-41 Audio-Visual Communications TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications Average Construction 4-28 Audio-Visual Communications Average Construction 4-29 Audio-Visual Communications Average Construction 4-20 Audio-Visual Communications Average Construction 4-20 Audio-Visual Communications Average Construction 4-20 Audio-Visual Construction 4-20 Audio-Visual Communications Average Construction 4-20 Audio-Visual Co				(Brainbench)	
Certification (Brainbench) Brainbench MS FrontPage 2000 4-6				(Brainbench)	
Certification Brainbench Quark Xpress 4-6				Certification (Brainbench)	
Certification (Brainbench) Graphic Communications 4-16 Technology Assessment (NOCTI 4042) Macromedia Certified Professional (Macromedia Certified Professional (Macromedia Certified Professional (Macromedia Certification (all exams) 4-22 (Macromedia) PrintED Certification (all exams) 4-29 (Graphic Arts Education and Research Foundation)				Certification	
Radio Communications TD18640/8641/8642 2-36 3-38 Robotic Workcell Technology TD18557/8558/ TD18559 2-36 3-39 3-41 Audio-Visual Communications TD18669/8651 2-39 3-41 Audio-Visual Communications TD18669/8690 2-39 3-41 Audio-Visual Communications TD18669/8618 2-39 3-41 Audio-Visual Communications TD18659/8651 2-39 3-41 Audio-Visual Communications 4-2 Assessment (NOCTI 2005)				Certification (Brainbench)	
Macromedia PrintED Certification (all exams) (Graphic Arts Education and Research Foundation) 4-29				Technology Assessment (NOCTI 4042)	
Radio Communications TDI8640/8641/8642 2-36 3-38 Robotic Workcell Technology TDI8557/8558/ TDI8559 2-36 3-39 TDI8559 Telecommunications TDI8650/8651 2-39 3-41 Audio-Visual Communications 4-2 Assessment (NOCTI 2005) Television Production TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications 4-2 Assessment (NOCTI 2005) Construction				(Macromedia)	
Robotic Workcell Technology TDI8557/8558/ TDI8559				(Graphic Arts Education and	4-29
Tol8559	Radio Communications TDI8640/8641/8642	2-36	3-38	,	
Television Production TDI8688/8689/8690 2-39 3-41 Audio-Visual Communications Assessment (NOCTI 2005) 4-2	TDI8559	2-36	3-39		
Assessment (NOCTI 2005)		2-39	3-41		
Basic Carpentry TDI8600 2-7 3-5	Television Production TDI8688/8689/8690	2-39	3-41		4-2
Brick Layer TDI8511 2-8 3-6					
Building Trades TDI8515/8516/8517					
NCCER Construction Fundamentals 4-12	•		_		
Certification (NCCER)	Building Trades TDI8515/8516/8517	2-8	3-6	(NCCER)	
Cabinetmaking TDI8604/8605/8606 2-9 3-8 Cabinetmaking Assessment (NOCTI 1014) Construction Fundamentals 4-12 Certification (NCCER)				Certification (NCCER)	
				(NCCER)	
Cabinetmaking TDI8604/8605/8606 2-9 3-8 Cabinetmaking Assessment (NOCTI 4-6 1014)				(NCCER)	
1014 Construction Fundamentals 4-12	Cabinatmaking TDI8604/9605/9606	2.0	2 9	(NCCER) (NCCER)	
Certification (NCCER)	Caumennaking 1 D10004/000J/0000	∠ - 9	3-0	1014)	
Carpentry, Level 1 Certification 4-6 (NCCER) Construction Fundamentals 4-12	Corportry TD18601/8602/8602	2.0	3.8	Certification (NCCER)	
(NCCER) Construction Fundamentals 4-12	Carpentry 1D10001/0002/0003	2-9	3-0		
				(NCCER)	
Custodial Services TDI8590/8591/8592 2-13 3-13	G . I'll G	2.12	2.10	Certification (NCCER)	7-14

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Electricity and Cabling TDI8533/8534/8535	2-16	3-17	BICSI Registered Installer, Level 1 (BISCI/International Telecommunications Association)	4-3
			Certified Fiber Optics Installer (Association of Communications and Electronics Schools, International)	4-8
			Certified Satellite Disk Installer (ETA)	4-9
			Construction Electricity Assessment (NOCTI 1024)	4-12
			Construction Fundamentals Certification (NCCER)	4-12
			Copper-Based Cabling Certification (RBT Systems)	4-13
			Electrical, Level 1 Certification (NCCER)	4-15
			Fiber Optic Network Cabling Certification (RBT Systems)	4-15
			Fiber Optics Installer (ETA)	4-16
			Graymark Cable Installation Certification (Graymark Inter- national)	4-17
			Voice and Data Cabling Certification (Cisco Systems)	4-31
Heating, Ventilation, Air Conditioning, and Refrigeration TDI8503/8504/8505	2-22	3-22	Air Conditioning Certification (HVAC Excellence)	4-2
			Commercial Air Conditioning Certification (HVAC Excellence)	4-11
			Commercial Refrigeration Certification (HVAC Excellence)	4-12
			Electrical Certification (HVAC Excellence)	4-14
			Electric Heat Certification (HVAC Excellence)	4-15
			EPA Technician Certification (Core Exam I, II, or III) (Environmental Protection Agency)	4-15
			Gas Heat Certification (HVAC Excellence)	4-16
			Heat Pump Certification (HVAC Excellence)	4-17
			HVAC, Level I Certification (NCCER)	4-19
			Installer Core Certification (NATE)	4-20
			Light Commercial Heating & Air Conditioning (ARI)	4-21
			Oil Heat Certification (HVAC Excellence)	4-27
			Residential Air-Conditioning and Heating Certification (ARI)	4-30
]	Service Core Certification (NATE)	4-30

Course	Course	Certification, License, or Assessment	Credential
Descrip- tion	Sequence	Available	Overview Page #
Page #	Page #		
2-30	3-31	Construction Fundamentals Certification (NCCER)	4-12
		Construction Masonry—Blocklaying Assessment (NOCTI 2025)	4-12
		Construction Masonry—Bricklaying Assessment (NOCTI 2125)	4-12
		Masonry, Level I Certification (NCCER)	4-22
2-333	3-36	Construction Fundamentals Certification (NCCER)	4-12
		Plumbing Assessment (NOCTI 2061)	4-28
		Plumbing, Level 1 Certification (NCCER)	4-28
2-40	3-41		
2-24	3-23	(Fluid Power Society)	4-19
		Society)	4-28
2-34	3-37		4-22
2-36	3-39	(NIMS)	4-23
2-40	3-41	SENSE (American Welding Society)	4-30
		Welding, Level 1 Certification (NCCER)	4-31
		Cosmetology)	4-13
2-12	3-13		4-1
		(NOCTI 2020)	4-11
		Services Assessment (NOCTI 2036)	4-16
			4-29
2.21	2 22	/	1 26
2-31	3-32	Cosmetology)	4-26
2 12	2 12	Low Enforcement Associated	1 21
		(NOCTI 1081)	4-21
_			
2-35	5-38		
2.5	2.4		
2-5	3-4		
2-6	3-4	Collision Repair and Refinishing Technician (ASE)	4-11
		Damage Analysis and Estimating Certification (ASE)	4-13
2-6	3-4		
	2-30 2-333 2-40 2-24 2-34 2-36 2-40 2-12 2-12 2-12 2-12 2-20 2-35 2-5 2-7 2-6 2-6	Description Page # Sequence Page # 2-30 3-31 2-30 3-31 2-30 3-31 2-31 3-36 2-40 3-41 2-34 3-37 2-36 3-39 2-40 3-41 2-10 3-9 2-12 3-13 2-12 3-13 2-12 3-13 2-20 3-19 2-35 3-38 2-5 3-4 2-7 3-5 2-6 3-4	Description Page # 2-30 3-31 Construction Fundamentals Certification (NCCER) Construction Masonry—Blocklaying Assessment (NOCTI 2025) Construction Masonry—Bricklaying Assessment (NOCTI 2125) Masonry, Level I Certification (NCCER) Plumbing Assessment (NOCTI 2015) Masonry, Level I Certification (NCCER) Plumbing Assessment (NOCTI 2015) Plumbing Assessment (NOCTI 2016) Plumbing Level I Certification (NCCER) Plumbing Assessment (NOCTI 2016) Plumbing Skills—Level I (NIMS) Machining Skills—Level I (NIMS) Machining Skills—Level I (NIMS) SENSE (American Welding Society) Welding, Level I Certification (NCCER) 2-10 3-9 2-12 3-13 Cosmetology (Virginia Board of Cosmetology) ACCESS ACF Commercial Foods Assessment (NOCTI 2020) Food Production, Management, and Services Assessment (NOCTI 2036) ProStart National Certification of Achievement (Exit Exam) (Educational Foundation of the National Restaurant Association) Nail Technician (Virginia Board of Cosmetology) 2-12 3-13 Law Enforcement Assessment (NOCTI 1081) 2-20 3-19 2-35 3-38 Collision Repair and Refinishing Technician (ASE) Damage Analysis and Estimating Certification (ASE) Dam

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Automotive Service Technology—Certified	2-6	3-4	Automotive Technician (ASE)	4-3
TDI8506/8507/8508			Parts Specialist: Automobile or Medium/Heavy Truck (ASE)	4-28
Auto Servicing—Noncertified TDI8710/8711/ TDI8712	2-6	3-5		
Automotive Maintenance TDI8709	2-6	3-5		
Basic Automotive Body Repair (1 year course) TDI8675	2-7	3-5		
Basic Small Engine Repair TDI8724	2-7	3-6		
Diesel Equipment Technology TDI8613/8614/ TDI8615	2-14	3-15		
Small Engine Repair TDI8725/8726/8727	2-37	3-40	Air Cooled Gas Engine Repair (NOCTI 2068)	4-2
			Outdoor Power Equipment Certification (EETC)	4-28
Cooperative Education				
Industrial Cooperative Training TDI8901/8902/ TDI8903/8904	2-24	3-23		
Special Programs		•		
Dual Enrollment—Postsecondary TDI8801	2-39			

CAREER CONNECTIONS Focus: Career exploration, entrepreneurship, leadership, Education for Employment

Course	Course Descrip- tion Page #	Course Sequence Page #	Certification, License, or Assessment Available	Credential Overview Page #
Career Pathways				
Phase 1: Career Exploration CCN9070	2-9, 9-1	3-8		
Phase 2: Career Skills CCN9071	2-9, 9-1	3-8		
Phase 3: Career Match CCN9072	2-9	3-8		
Education for Employment				
EFE Introduction CCN9075/CCN9076/CCN9082/ CCN9083	2-15	3-17		
EFE Level 1 CCN9077/CCN9078/CCN9084/ CCN9085	2-16	3-17		
EFE Level 2 CCN9079/CCN9080/CCN9086/ CCN9087	2-16	3-17		
EFE Cooperative Education CCN9020/CCN9021/ CCN9030, CCN9031	2-16	3-17		
Entrepreneurship				
Exploring Entrepreneurship CCN9093	2-18	3-18		
Entrepreneurship Education CCN9094	2-18	3-18		
Leadership				
Introduction to Leadership CCN9091	2-27	3-27		
Leadership Development CCN9092	2-28	3-28		
Teacher Cadet				
Teacher Cadet CCN9062	2-38	3-40		
ProTeam CCN9060/CCN9061	9-4			